

Artificial Intelligence
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Lecture - 92
Ethics of AI: Humans vs Robots

Now we are going to start talking about ethics. So why are we talking about ethics? If you look at the course curriculum five years ago, nobody would talk about ethics of AI. But I feel that today it is extremely important to talk about ethics. It is actually an important area for any student who has done AI course to understand the long reaching consequences of where we are today.

Now why did we not talk about ethics 5, 10 years ago? The answer is obvious. Why did we not talk about ethics? It was, deep networks were not that successful. But the question is on AI. AI was not impactful. Well, there was always Google. Google had a lot of machine learning in it. So you cannot say that AI was not impactful. But it was not touching so many lives so quickly.

If you look at the Siri project for example, and you guys must have been little kids, but Siri came out in what 2007 or 08? It was terrible in its ability to recognize speech, like super terrible. I remember distinctly that, when I would say anything, it will just completely not understand it and understand something completely different. And this was true by and large, except for the very sort of standard American speak.

Anybody with any kind of a little bit of an accent would have a hard time getting through to any kind of spoken dialogue system. You know we would always be dealing with all these automated systems, for example in the US for you know purchase of air tickets or any kind of customer service and we will have a just a tough time you know. If we have to press a key we were happy.

If we have to speak the credit card number, we were just like this is never going to work. Press 9, press 9 press 9, let the operator come. And in the last 5 years things have completely changed. In the last 5 years AI has become so big that governments

now have AI policies. And not just the US Government but even Indian Government has an AI policy that came out of NITI Aayog last year, 2018.

And everybody is saying okay, if AI becomes mainstream, if no, when AI becomes mainstream, when it touches so many walks of life, where is it fair use, where is it not fair use, how much to use, how not to use, how to increase your AI throughput output from the country etc. So there are many issues to discuss now that until earlier, people thought AI never going to work, never going to be successful, who cares?

And suddenly what is interesting is that they have gone into the other direction. I will show you what is the other direction.

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The other direction is conscious killer robots to bide their time and enslave humans. This is the kind of narrative that is going on in news right? Even sex robots are going to murder people, right? Believe it or not. Somebody wrote this very beautiful article which said, tomorrow you will be the Overlord, AI. You would be the Overlord. You will be about to kill all of us, the humanity.

At that time, before you kill the humanity, please read my article, okay. Of course there are some people they believe strongly for whatever best reasons they have that AI could doom human civilization. Of course, there are people who disagree. But because of their other practices, they are not very important anymore or they are

important, but nobody listens to them anymore, right? So this is a complicated situation.

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And of course, then there are people who say look, Elon Musk is wrong, AI is not going to kill us. This is ridiculous, etc. Just stirring up the fear. And also that there was a recent survey of 15 Nobel laureates who ranked many other factors ahead of AI that could be threat to humanities, right. If you think about it carefully you know climate, obviously people say that, it is not clear whether three generations from now you would have any people alive.

Some people say 70 years, some people say 100, some say 200. But the way the global warming is going, and it is very hard to reverse at this point you know all the lot of snow has gone away, etc. etc., we might all be dead, right? Because it will be cyclic, right once you have more heat and more purchasing power you will have more ACs. Once you have more ACs, you will have more greenhouse gases.

Once you have more greenhouse gases you will have, you know less atmosphere, etc. You know all these things. And many other factors including some people. So I think this is just this is fool speak. This is, the fact that AI robots are going to kill humans is, is just taking it too far too soon, without much basis. And most AI researchers feel that this is not going to happen.

And of course, people who write these kinds of articles are rarely AI researchers, right. But there is one other thing that can be more real.

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Robots TAKING OVER: AI to 'sink world into unemployed despair in hellish dystopia'

HUMAN beings are already on course for a hellish dystopia where robots have replaced all jobs and the world sinks into global depression, an expert has warned.

Welcome to the machine: Why white-collar jobs are safe from AI — for now

Artificial intelligence can perform certain specific tasks faster than humans, but it still has a long way to go before it can replace them.



So there are newspaper articles which say that robots are taking over in a different way. AI to sink the world into unemployed despair in hellish dystopia. Suddenly, people would not have jobs, those jobs will be done by AI. And here I would like to separate AI and automation. This is sort of an argument against automation, but people believe that AI will lead to lot more automation.

And on the other hand, there are other people who are saying look, there are many jobs which are going to stay, right.

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And then there are some people say that AI will eliminate millions of sales jobs. Other people say look, it will create more jobs than it eliminates. 2020 seems too soon, in my personal opinion, next year. So I am not sure if that is true, is neither creating that

many more jobs, nor is it eliminating. Maybe then therefore, it is true that it is creating more jobs. I will show you, but it is not yet eliminating.


But by 2030, we need to answer what is going to happen. And it is clear that AI is going to be creating new and unconventional career paths. Because the world around us has which has always been changing, right? We have cell phones. Our grandparents never had cell phones. They had phones. Their parents never had phones. They did not even have a radio, or maybe they had a radio. Their parents never had a radio.

The world has evolved. And we have been evolving since time immemorial, right. But eventually, we are evolving too fast right now. And things are going to churn very fast. And that will cause a lot of disruption. And we need to figure this out.

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Future of Jobs

- AI Present
 - 40% of companies struggle to hire and retain data scientists
 - ~1/3rd of the top 400 companies lack SoA data analysis tools and personnel
 - 364K new jobs expected by 2020.
 - (50K currently vacant in India)
- ~1/3rd of jobs could be replaced by 2030
 - (many different reports)
- AI will create more jobs than it eliminates
 - (Gartner report)
- Teams of AI + Human Intelligence will be co



So let us quickly talk about jobs. Because I think that is an important question. At present, it is said that 40% of companies struggle to hire and retain data scientists. And when I use data scientist AI ML, I am going to use this in sort of interchangeable ways at this point, right. We have discussed this very early in the course that you actually do data science for most companies.

But you tell people you are going to do machine learning and then when you want funding you say we are doing AI. These are practically the same things with small differences and we will ignore the differences. This is not just for random companies.

A third of the top 400 companies, think about the top 400 companies. They lack state of the art data analysis tools and personnel. They just do not have it.

The top 400, 150 of those do not have it then you know what about others. It is expected that by 2020 there will be 364,000 more jobs globally for AI or data scientist or machine learning practitioners slash researchers. 50,000 of those in India out of which 25,000 will expected graduate degree or higher. So while AI is going to disrupt things, it is clear that there are a lot of AI jobs that are going to come out, at least in the near term.

Because every company wants AI. Even if you are basically a hardware company you still want AI. Even if you are doing you know service you need AI. If you are doing blacksmithy you want AI. For doing anything you want AI in your portfolio. So you by taking my AI course have now gotten access into this space.

Now the only thing you need to do is also take a machine learning course, also take a deep learning course, also take a data mining course, also take a computer vision or natural language processing or both courses so that you are an expert now right, at least to some level. But you have now your path your thing has started, right. And some people say that look, a third of the jobs could be replaced by 2030.

It is clear that, it is mostly clear that the truck drivers in the US may not exist after 2030 because truck driving is a very difficult job in the US. The trucks are 24 wheels, very long trucks. They make lot of mistakes. They mostly drive in the nights. They do not sleep. They take a lot of coffee, then they drive, then they take a lot of coffee then they drive. They make mistakes, they can make mistakes, they are human.

And they have accidents. It is a very, it is a difficult job. Of course, that is the only job they know what to do, right how to do. So I am not saying that they will say that please replace us. But for humanity, maybe it is a good idea to say okay, the trucks will drive completely autonomous autonomously using autonomous driving.

And those autonomous driving cars will take a long time, before they can come to India dealing with our traffic rules and the potholes and the cars and the rickshaws

and everybody else. So we are okay, for a generation. If we actually become industrialized and you know mechanized and all the roads become nice and people start driving in lanes not going to happen, then we might not have drivers, you know some generations from now.

But for now we are okay. So their job might be eliminated. So we need to figure out how to rehabilitate them. It is very important. It is not like, we can deal without it. We have to deal with it. But for the whole humanity, it is probably better to use AI there. And you know rehabilitate them in a different profession and slowly they will retire. And then the next generation of truck drivers would not exist.

So it just takes one generation, but you need to make sure that the generation that got displaced knows what to do. On the other hand, there are reports which say that AI will create more jobs than it eliminates. And there will be jobs of AI trainers, AI explainers, AI sustainers, AI whatever, working with AI systems, those kinds of jobs. So if you have kids around, make sure that they are very digitally literate.

They can work with robots, they have small robots that they can make, they can deal with them. They can play with them, they can, you know things like that. They get used to being machines around them, because the future might be one where AI and human intelligence comes together to solve a task. I probably have said this before, but I will say it again, the best chess player is not a machine.

The best chess player is not a human. If humans compete with machines, of course, machines win. But the best chess player is a team of humans and machines. Because there are still some insights which humans have which machines do not. And then of course insights that machines have which humans cannot compute. And together, they become formidable.

So there is a good chance that your kids or even you in your lifetime, or even I in my lifetime, if I live long enough, will see AI and humans collaborating very closely in a lot of tasks. And we will talk about what those some of those tasks would be. And what are the challenges in getting AI to that point.